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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,198	08/17/2001	Lars Olof Johansson	64645-1055	4858

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ERICSSON INC.
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EXAMINER

PEACHES, RANDY

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,198

Applicant(s)

JOHANSSON ET AL.

Examiner

Randy Peaches

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/08-25-2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

- 1.) Page 9, Line 10 – “API, 116”, not referenced in drawings.
- 2.) Page 12, Line 11 – Wrong Reference Number, “306” is used to reference another element.
- 3.) Page 16, Line 20 – The letter “y” after “capacity needs to be deleted.
- 4.) Page 11, Line 6 – The word “m-commerce” should be changed to “e-commerce”.

Appropriate corrections are required.

1. **Claim 1** is objected to because of the following informalities:
 - a.) “radio access system high”. Examiner suggests that an appropriate correction be made as follows: “High-density access radio system”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 5-6, and 9-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lappetelainen et al (U.S. Patent Number 6,671,495) in view of Hamilton-Piercy et al (U.S. Patent Number 5,802,173).

Regarding **claim 1**, Lappetelainen et al teaches in column 15 lines 26-29, of a wireless communication system (1), which reads on claimed "radio access system", comprising:

- a base station controller (BSC), which reads on claimed "access point controller", having provided with a scheduler and an additional transmission and connection sequence (buffer) based on the requested quality of service, which reads on claimed "a master connection handler and a sector quality of service handler".

See column 9 lines 35-49

- an omni-directional antenna. See column 5 lines 27-31, 46-47 and column 12 lines 33-40.

However, Lappetelainen et al does not teach of multi link controllers coupled to both access points and transceivers. In addition, Lappetelainen et al fails to disclose a system containing a combiner.

Hamilton-Piercy et al teaches:

- one or more Signaling and Control (SC, 224) units, which reads on claimed "multi-link controller", communicably coupled to the Radio Base Station (RBS), which reads on claimed "access points". See FIGURE 3.

- one or more radio transceivers (220), which reads on claimed "transceivers", communicably coupled to each said SC (224). See column 11 lines 54-57 and FIGURE 3.
- a low-loss tuned cavity combiner (225), which reads on claimed "combiner", communicably coupled to the one or more said radio transceivers for each said SC (224). See column 11 lines 60-61; and
- a said low-loss tuned cavity combiner (225) communicably coupled to a conventional antenna.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) to include Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in order to provide a wireless communication system capable of handling multiple users in an environment indicative to a high-capacity radio network where the management and control of the out-going and incoming signals are a function of the said signaling and control unit communicably coupled to a said low-loss tuned cavity combiner.

Regarding **claim 5**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, Lappetelainen et al teaches in column 9 lines 42-49, wherein the said base station controller further comprises:

- a connection sequence buffer, which reads on claimed "transceiver connection manager"; and

- a memory means (14), which reads on claimed "transceiver database", communicably coupled to the said connection sequence (buffer) and the transmission means.

Regarding **claim 6**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, Lappetelainen et al teaches in column 9 lines 39-42, wherein the said connection sequence (buffer) and the transmission means of the said BSC allocates sufficient resources, for set-up purposes, corresponding to the requested quality of service requirements.

Regarding **claim 9**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, Lappetelainen et al teaches in column 9 lines 42-46, wherein the said base station controller further comprises a resource allocation table, which reads on claimed "user database", communicably coupled to the said connection sequence (buffer) and transmission means.

Regarding **claims 10 and 11**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, Hamilton-Piercy et al discloses in FIGURE 2, a connection (221) between the said Signaling and Control (SC, 224) units

and MTSO and the radio transceivers (220). See column 11 lines 46-50. However, the reference fails to teach that the connections are PCI bus and a USB bus, respectively. As referenced in the Newton's Telecommunication Dictionary, a bus is defined as an electrical connection where one or more lines or links are connected together. By definition, the Office takes official notice that it is well known in the art to specify and utilize a PCI bus and a USB bus to combine two extremities together to provide a mutual connection for fast transmission.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) by specifying the type of said links as a PCI and USB bus to be useful in the connection of one or more extremities in order to provide a fast electrical transfer of information.

Regarding **claim 12**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, wherein the said base station controller comprises:

- a controller, which reads on claimed "bus controller". See Lappetelainen et al column 7 lines 19-25.
- a central processor, as part of the said controller, communicable coupled to the said controller;
- a memory communicably coupled to the said controller. See FIGURE 3.

2. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in further view Niemela (U.S. Patent Number 5,978,675).

Regarding **claim 2**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein the said Signaling and Control (SC, 224) unit comprises a first interface coupled to said base station controller and an access point controller. In addition, a multi-transceiver ASIC coupled to the base band controller, the multi-transceiver having a radio coupled to each transceiver.

Niemela teaches, wherein each said Operation and Maintenance Unit (OMU), which reads on claimed "multi-link controller", comprises:

- a first interface communicably couple to said base station controller as seen in FIGURE 1 and in column 3 lines 9-15.
- as stated by the applicant, the base band controller, as an integral part of the multi-link controller, allows for the functionality of controlling the frequency hopping of the transceivers (see application paragraph [0020]). Thus, as taught

by Niemela in column 3 lines 9-15, the said OMU controls the synthesizer frequency hopping of each said transceiver.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include Niemela (U.S. Patent Number 5,978,675) in order to define the functionality of the said Signaling and Control (SC, 224) unit being coupled and incorporated with a said base band controller, to effectively control the frequency hopping of the said radio transceivers.

3. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in further view Reed (U.S. Patent Number 6,665,549 B1).

Regarding **claim 3**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein the said base – band controller manages two or more piconets on a clock phase basis.

Reed teaches in column 5 lines 36-45, that the base band function is carried out by the link controller, in turn, manages the piconets base on the clock of the master device.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include Reed (U.S. Patent Number 6,665,549 B1) in order to provide a synchronous clocked method of managing a said piconet in a said radio environment.

4. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in further view An (U.S. Patent Number 6,226,518 B1).

Regarding **claim 4**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein a memory is communicably coupled to each multi-link controller.

An discloses in FIGURE 3, that the data link controller (33), which reads on claimed "multi-link controller, is shown to be coupled to a lower channel memory (37).

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include An (U.S. Patent Number 6,226,518 B1) in order to store information pertinent to the functionality of the said system.

5. **Claims 7 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in further view of Inselberg (U.S. Patent Number 6,434,398 B1).

Regarding **claims 7 and 8**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein the said system is installed in a sporting venue and spectator events, which reads on claimed "entertainment venue".

Inselberg teaches in column 1 lines 13-20, that the enhancement of spectator events can be accomplished by the incorporation of a system using an interactive device.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include Inselberg (U.S. Patent Number 6,434,398 B1) to define the environments in which the said systems can be usefully incorporated within.

6. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-

Piercy et al (U.S. Patent Number 5,802,173) in further view of Hussain (U.S. Patent Number 6,243,367 B1).

Regarding **claim 13**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein the said system further comprising an Ethernet interface communicably connected to a access point.

Hussain teaches in columns 3, 5 and 6 lines 57-61, 49-51, 23-29 respectively, that the base station server is provided with 96 Ethernet channels distributed among six clients, Base Transceiver Station (BTS1-6), which reads on claimed "access point".

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include Hussain (U.S. Patent Number 6,243,367 B1) in order to define the type of interface connection for the said Base Transceiver Stations (BTS1-6) for communication to other known devices within the system.

7. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) in further view of Martini et al (U.S. Patent Number 6,675,015 B1).

Regarding **claim 14**, as the above combination of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) are made, the combination according to **claim 1**, fails to teach wherein the said system uses a Blue-tooth communication Protocol.

Martini et al teaches in column 2 lines 6-11, that the said Bluetooth protocols are being used in the communication system.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of Lappetelainen et al (U.S. Patent Number 6,671,495) and Hamilton-Piercy et al (U.S. Patent Number 5,802,173) to further include Martini et al (U.S. Patent Number 6,675,015 B1) in order to specify the necessity of using a Bluetooth protocol in the entertainment or sporting environment to communicate effectively with other users within the vicinity.

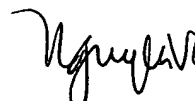
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randy Peaches whose telephone number is (703) 305-8993. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Randy Peaches
March 15, 2004


3-19-2004

NGUYEN T. VO
PRIMARY EXAMINER